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## **Philosophical Transactions**

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*De ORIGINE FONTIUM Tentamen Philosophicum, in Prælectione habita coram Societate Philosophica nuper Oxoniæ instituta ad Scientiam Naturalem promovendam, . Per Rob. Plot LL. D. Custodiæ MUSÆI ASHMOLEANI Oxoniæ Præpositum. & REGIÆ SOCIETATIS Secretarium Oxon. in 8°. 1685.*

THE Author of this *Treatise, de Origine Fontium*, disliking the old way of handling this *subject*, as too general and remote; has chose rather to argue for both parts of the *Question*, from the *History of springs*; with intent more particularly to satisfy his reader, which *springs* they are, that wholly come from *rains, mists, dews*, &c. which from the *seas*; and which from both. In order hereunto (after a short *Proem*.) He gives us a *Scheme* of the several *species* of *springs*, to which he thinks all what ever may be reduced: and then presently determines that such *intermitting springs* as are profluent after *rains*, and then gradually slacken, and at last are wholly dryed up upon heats in the Summer, doe certainly owe their birth to *rains*. And not only such *intermitting* ones, but some *perennial springs* too, such as we many times find on the tops of Mountains, which we may rather term weeping, than flowing or running *springs*; which seem to have their Origin from the *mists* we so frequently see hanging upon the tops of hills. Yet He cannot agree with several worthy *Authors* he there mentions, and whose Arguments he recites, that all *springs* owe their origin to *rains, dews*, &c. For he thinks not that *temporary irregular fountains* (whereof he enumerates many,) can possibly come from *rains*; much less  
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the temporary regular ones, such as the fountains of the *Loire* in *France*, of *Lambs-bourn* in *England*, of the *Zirchnitzer Sea* in *Carniola*, and divers others. Much less still thinks he that such vast perennial springs, as those of *Willowbridg* in *Staffordshire*, of the *Sorgue* in *France*, can come from rains; since he finds upon computation, that all the waters that fall near them for the space of a year in rains, dews, &c. will not comparably amount to what issues from them. For the better Calculation whereof, he shews to what height rain-water will rise in a year in a Conservatory fitted for that purpose *communibus annis*; and how many *French* Muids, Hogsheds and Gallons *English*, will flow out of a cubick inch bore, in 24 hours, in a year, &c. And then shews that though it may be true (what an Anonymous *French* Author asserts,) that more water falls in rains near the fountan head of the *River Sein*, than is needfull for the yearly expence of that River, yet it is not so at *Willowbridg*, or likely to be so with the fountain head of the *River Sorgue*, which as *Gassendus* tells us is navigable to the springs which are its original. Yet much less still can he imagin that all the rains, mists, dews, snows, &c. that fall upon the surface of the whole *Earth* for the space of a year, can supply the vast expence of all the Rivers in the *World* for the same time: when the *Volga* alone, according to the calculation of *Ricciolus*, pours forth as much water into the *Caspian Sea* in a years time; as will suffice to cover or drown the whole *Earth*: and so the *River Canada*, or of *St. Laurence* in the *West-Indies*. And if these either of them alone expend as much water in a year, as all the rains, mists, &c. seem capable of supplying; much more sure will the *Argyropotamus* or *Rio dela Plata* doe it, which says the same *Ricciolus* is bigger than the *Nile*, *Ganges*, and *Euphrates*, all put together; its Mouth being 90 miles broad, and running with that violence into the *Sea*, that it makes it fresh 200 miles forward. Or if

these singly will not doe it, certainly all three joyntly will, at least these and a thousand others must; which upon a modest conjecture, he computes must needs pour forth into the *Sea*, at least 500 times as much water in a year as falls upon the whole surface of the Earth in *rain, mists, snows, dewes, &c.* in the same space of time. And as he judges that all *fresh-water springs* cannot come from *rains*; neither can he beleive either that *hot springs*, or *salt springs* are maintain'd thence. Nor thinks he it likely that *springs*, where there falls little or no *rain*, or where the *Conservatories* must needs be too small, as in the Isles of *Mago, Rotunda*, and the *Strophades*, the Rock whereon stands the *maiden Tower* in the *Thracic Bosphorus*, should be supplied from *rains*. Then he goes on to prove that there are subterranean communications between the *Seas* and *fountains*, by which they are supplied, and that there are *Charybdes* which swallow the *Sea*, which happening sometimes to be stopt, the greatest *Rivers* have ceased to run, as the *Thames, Trent, Medway*, in *England*; the *Elve, Motala*, and *Gulspang* in *Sweden*; and sometimes being too much open'd, *fresh-water springs* have turned *salt*, as *Pliny* says it once happend in *Caria* near *Neptunes Temple*. This subterranean circulation of waters he further evinces from divers *springs* he there enumerates that *ebb* and *flow* with the *Sea*; and from divers *Lakes* that *have Salt water* and *sea Fish* in them, yet have no superterranean communication with any *sea*, such as the *Lake Haguygabon* in *Hispaniola*, the *Caspian* and *Mediterranean seas*, &c. He also says that 'tis further evident that there are such passages, from divers *marine heterogeneous substances* that have been found in digging deep underground, such as *shell fish*, &c. Where by the way he discourses of divers such *Indraughts* there are in the *sea*, more particularly of the *fluxus Moschonicus*, or *Maalstroome* on the coast of *Norway*, and beleives there must be some such vast *Charybdis* (beside that on the coast

of

of *Sicily*,) in the *Mediterranean* which must swallow all the water which perpetually flows into it, otherwise it must need overflow the low land of *Agypt*. For that an *undercurrent* (which some have beleived,) in the *straights-mouth*, will not solve this difficulty, unless occasioned by a vast *Gulf* that must be placed somewhere in the *Atlantic* near the *Mouth* of the *straight*, which though overflowed and hidden by that mighty sea, yet may possibly absorb the deeper waters, and so cause a contrary *undercurrent*. Thus having proved that the greatest *perennial springs* derive themselves from the *sea* through subterranean *ductus's*, from *Philosophy* and profane *History*, he next appeals to the *Testimony* of the *Scriptures*, where he gives a new *Interpretation* of *Eccl.* i. v. 7. and shews how agreeable the doctrine of the *Ancient Philosophers* is to the *scriptures*: And then proceeds to answer the cheif *Arguments* of those who hold, that all *springs* whatever come from *rains*, &c. Where by the way he shews, that there are *springs* upon the very *Tops* of Mountains, and that others rise in plain *Champion Countreys*, of both which he gives many instances. Then he shews how many ways *water* will ascend above its own *Level*, 1. by the help of *Hypogeal* heats. 2. by *Filtration*. 3. by the *unequal height* of divers *seas*. 4. by the distance of the *Center* of *Magnitude* from the *center* of *Gravity* in the *Teraqueous Globe*, where he indeavours to prove, that the *superficies* of the *Pacific sea*, is further from the *center* of *Gravity*, than the top of the highest Hill on the adverse part of the *Globe*. 5. by the help of *stormes*. And 7. he shews that *sea water* does ascend above its own *Level* by coming into *Wells*, whose bottoms ly higher than the surface of the *sea* next them, at highwater mark. Next he gives the *Method Nature* uses in making *sea water fresh*, and whence it comes to pass that the caverns through which the *sea water* has percolated for so many ages, are not stoppt; and proves that the *springs* are car-

ryed in the Earth after the manner of the *Blood* in the *Veins* of *Animals*, from their not being found in all places indifferently. Lastly he shews how it comes to pass that the *sea water* after so many repeated *percolations*, for so many years, is not yet become *fresh*. That it has its *saltness*, from the *Rocks* of *Fossile Salt* intersperst in its bottome and shores, and how much inferiour it is in *saltness* to the *Mediterranean* brines. All which he has treated of with that modesty, that he sincerely professes, he shall readily retract any thing that he has asserted, whenever better informed either by his own or the more nice observations of others.

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Medicina Septentrionalis Collatitia, *f. Rei medicæ nuperis annis à Medicis Anglis, Germanis & Danis emissæ sylloge & syntaxis. Opera Theophili Boneti. D. M. cum Indicibus & figuris necessariis. Geneva. M. DC. LXXXV. in Fol.*

**T**HIS Author designing a body of the law of Nature, in imitation of that of the Civil Law, to his two former Volumes subjoyns this, the intent of which is to shew how much Physick owes as to its improvement to these Northern nations. The Instruments of which have been the *Royal Society of England*, afterwards copied by our neighbouring Nations; *Paracelsus* opened the way, and was followed by *Helmont*, *Harvey*, *Lower*, *Bartholin*, *Malpighius*, *Wharton*, *Willis*, *Betts*, *Schneider*, *Steno*, *Sylvius* and others, which are briefly summed up in the preface. The book is divided according to the usual partition of the body of man, into three parts. The first contains the diseases incident to the head, which is taken here intirely with all its parts, the hair not excepted, with observations about which he begins, for that even our hair is not without its diseases and those none of the least troublesome; the *Plica Polonica* is a sure and a sad instance, the Nature and the cure of which you have here discoursed of at large, as also its division into *male* and *female*. He brings instances of Monstrous births born without heads, one of which had its Eyes placed under its armes, on these *Schrockius* discourses whether they ought to be Baptized or not, bringing Authorities and reasons on both parts of the question, it being difficult to determine whether they have a rational soul or no. These are followed by Monsters in the other extream, such as have many heads, where another question arises *viz.* whether such are many Animals, or only one, or whether the soul be multiplied



when the brain is, that being the reputed seat of it. Next come those who have been Monstrous as to the shape of the head, several instances are given of the *affectus cornutus*, of the defect or excess of the *Sutures*; of several wounds of the head, some mortal, others beyond all probability of escaping, particularly that of the *Hungarian Captain*, who though he had a Lance struck through his head, yet lived many years after it, and fought often. In the diseases of the head and Nerves is inserted a discourse of *Olaus Borrichius* concerning the use of *Volatile Salts* in the distempers of the head, in which he asserts the difference of volatile salts, and prefers that of *Mans Skull* as the most proper in such cases; And among several sorts of pains of the head there is an account from *Joel Langelot*, of one which rose and late with the Sun, observing exactly the same degrees of increase and decrease, as the Sun did in its motion to and from the Meridian, &c.

In the affections of the Eys, the place and manner of vision is determined, together with the relation of the controversy between *Pecquet* and *Mariotte*, concerning the termination of the species, and vision the result of it, being performed rather in the *Chorooides*, than in the *Retina*. The famous experiment of restoring the humours of the Eys, was at last resolved into their natural restitution, from the same humour's being replenish'd those wayes they are constantly nourished, and not from their being repaired by the injections of *Burrhus*, or any other pretender.

The second book treats of the diseases of the mouth and breast, where among other things we meet with a discourse concerning an infallible way of preserving a man from infection though he converse constantly with all sorts of those who are infected, the way is no more than forbearing to swallow the *Saliva*, which at any ill smell is raised by nature, on purpose to be ejected, the suppositions that confirm this opinion are chiefly,  
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the fermenting nature of contagion. This contagion chiefly propagated by *effluvia* in the Air; These *effluvia* are readily imbibed by the *Saliva*, which thus impregnated and swallowed, must needs communicate them to the body; to which may be annexed the observation of a Consumption cur'd by a critical salivation. He treats very largely of the nature and cure of a *Peripneumonia*, and of its difference from a *Pleurisy*; of all diseases of the lungs, as *Gangrene*, *Schirrus*, *Vomica* and *Stones* frequently found in them, a case of which latter is subjoyned of one who expectorating many of different shapes and sizes, was eased from a *dyspnœa* under which he almost mortally laboured.

Among *pleurisy*s there is an account of a periodical one returning once in seven weeks. Of another caused by laughing, &c. Among the celebrated remedies for it, you find *Antimonium Diaphoreticum*; as also a bark in India very powerful, if not a specifick in this case. It is called *Pawo de portada*, of a yellowish colour, bitter tast, and a friable consistence; half an ounce in a glasse of Wine is the dose. In his Histories of consumptions he relates an example of the great contagion of it, which was the infection of a senators second Wife, only by wearing the Muff of his first Wife who died of one, though after the distance of above a twelvemonth. He gives a particular account of the famous *Cnæfellius's* remedies in this as he has done in other cases: Instances how *Opium* has been very unsuccessfully applied in it, death insuing the stoppage of the spitting, and the coagulation of the matter there caused by it.

In the Section de *Respiratione laesa*, there is a large dissertation de *halitu humano*, of its difference, causes, manner, quantity, use, diseases, &c. written by *Georgius Traneus*. Which discourse is followed by an account of a monster which breathed through an hole in the pole; as also the discourse of Dr. Lower, how a dog may be  
made

made to breath as an Horfe does when broken winded, taken out of the English *Philosophical Transactions*.

In his third book are containd what concern the *Abdomen* and its parts, of which the *Oesophagus* being looked upon as the beginning, the præternatural cafes of that are first handled; such as its being turned to a *Cartilage*; being obstructed by different causes, and the like; and after the account of several ways *deglutition* has been hindered by, the famous Historyes of men swallowing odde substances come in, as mony, frogs, knives, fire, &c. But because twould be endlesse to enumerate particulars, you have comprized in the whole volume, whatsoever this age and these Climates have produced curious in Medicine. And what are scatter'd and lye confused in *Ephemerides*, and other tracts, (which the learned now publish their particular observations in,) are here collected into one book, digested into heads, and the Authors name annexed to each relation, to secure the propriety to the first inventor. And though little seems to be wanting in this volume, yet the Author not thinking he can doe too much good, promises a second then in the presse, when this was first published.

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*Johannis Nico-*

Johannis Nicolai Pechlini Med. D. P. serenissimi Cimbriæ Principis Reg. Archiatri, Theophilus Bibaculus, sive de Potu Theæ Dialogus. Francofurti; Quarto, 1684.

**T**HIS tract, written by the way of Dialogue, gives us an account that *Thee*, or *Tsia*, is a shrub growing in most parts of *China* and *Japan*; it arises generally to the height and bigness of our Garden Role and Currant Trees; the Roots are fibrous, and spread into many little filaments, near the surface of the Earth; the flowers are like those of *Rosa Sylvestris*; the Seeds round, and black; which being sow'd come to perfection in three years time, and then yield an yearly crop; but these are passed by, as not much material; the great and only Vertue of this plant being supposed to consist chiefly in the Leaves; of which there are five sorts, both as to bigness, and Value; for the largest at bottom are sold for about penny halfe penny the pound; the smallest at the top for 50, sometimes 150 Crowns.

As to their figure, they are thin, narrow, sharp pointed, and indented on each side, which some have compared to the *Consolida*, the *Bellis*; Others to the *Paliurus*, and some again to the *Myrtus Brabantica*, or *Chamaeleagnus Dodonæi*; But our Author not liking the comparisons, nor much solicitous about them, comes presently to the Vertue of *Thee*, and endeavours to shew how far it agrees with some plants of our own growth, as to the effects it produceth.

*Thee* then is hot and dry; of a bitter adstringent  
F Quality.

Quality; the Infusion of it gives a green Colour; but upon the mixture of the solution of Vitriol, it turns black; whereas *Chamedrys* tho' bitter, is not astringent; and upon such mixture grows green, rather than black. *Cardiaca*, and *Marrubium* give a very deep Tincture, but grow not black with Vitriol.

*Sanguisorba* well enough resembles the Colour, but the taste is by no means, so smart, and brisk.

The *Myrtus Brabantica* gives a lively yellow Colour, but changes very little with Vitriol.

*Veronica* comes nearest to it, for it gives a good tolerable Tincture; and tho' the taste be not bitter, yet 'tis extremely astringent; and not only soe but it turns black alsoe, like *Thee*, when mixt with the solution of Vitriol; neither doe it's effects come far short, since it cleanses the Kidnies, and very much strengthen's the head, and stomach. This Plant abounds with a brisk Volatile salt, which he adjudges very agreeable to our Northern Constitutions, whose blood is naturally very heavy, and sluggish; it carries alsoe with it a fine thinner sort of Oyl; but soe admirably well temper'd, that as this hinders the spirit from Evaporating, soe that corrects the Inflammability of this; from whence results the very agreeable bitter astringent: All which together, as they rectifie the ferment of the blood, and at the same time strengthen, and confirm the tone of the parts, contribute so much to the assisting of Nature in her Operations, as to prevent, if not to Cure, most Chronical Distempers. But because the discreet choice of a proper Vehicle or Menstruum, for this great *Panacea*, may be very material, he thinks good to shew his dislike of Broath, and Milk; in that they obtund, and obstruct it's more lively and quicker parts; but the latter more especially; as all ways leaving behind it much acidity, which how prejudicial to *Hypochondriacal*

*driacal* persons, is left to the Learned to determine,

He dislikes the custom they use in *Japan*, of drinking the leaves powdered, supposing that it may dry the body too much, &c.

He concludes warm water to be the most natural, and effectual Vehicle, as being pure, and void of all saline or otherways pernicious particles, and being more ready to absorb, and be impregnated with the Vertue hereof; which when armed with this powerfull Vegetable, Nature easily admits into its obscure channels, and dark recesses; and by this means it is, that it subdues those stubborn Humours, which are never more effectually rooted out, then (as they came in,) by degrees, by Custom, and Habit.

He approves well enough of the use of Sugar; as it serves not only to qualifie the bitter tast, by its sweetnesse which at the same time is Corrected by the Heat; but as being good alsoe for the Kidnyes, and Lungs. He thinks the difference of constitutions too great to be insisted on, and therefore only says this *viz.* that those of a dryer Habit may take it more diluted, because their salts may more easily be carried off: and for the Moist and Hydropical temper He supposes this Water, if more strongly impregnated may make way for the Evacuation of the other.

As to the times of taking it, the more empty the Stomack, the passage will be the more easy, and therefore in such the more effectual: He condemns the use of it after meals; because the Volatile part flies off, before the meat is any ways digested; after which the Concoction is difficultly performed; because the ferment, as well as the Volatility of the Chyle, is suppressed by the Astringent Quality; which in those Circumstances oft proves

a thing of very ill consequence. To conclude, our Author notwithstanding all his Encomium's of this Exotic, can be content to think, we might receive as much Benefit from some plants of our own growth; were People Industrious to search after them; some of which are *Veronica, Lingua Cervina, Marrhubium, Hepatica, Cichoreum, &c.*

## F I N I S

### Errata in the Transaction of December last.

**P** Ag. 814, line 8, within the Parenthesis read thus (*which, with the other small Guts, and Stomac, was very much distended with the matter of the last meal:*) pag. 815, lin 14, for *musculose Veins*, read *musculose and membranose Tunis.* pag. 816 line 21, for *Meat* read *Meal.* Pag. 817, line 21 read *Musculose and membranose Tunics.*

### Errata in the Transaction of January.

**P** Ag. 840, line 5, for *command*, read *command.* pag 841, line 2, for *Designed*, read *Designed* line 10, read thus *1684, story.* pag 145 line 6, for *gggg* there ought to be *GGGG*; line. 9, for *hhhh* there should be *HHHH.* pag 848, line 1, read *usure*: line 3 read *AA* Fig. 6ib. pag 855, lines 3 and 4, for *oever*, read *over*: line 4 read *driven*: line 22 dele *after.*

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